

### **REMARKS**

Claims 1-5, 11, 12, 14, 17, 18, 20, 22, 23, and 25-27 are currently pending in the subject application and are presently under consideration. Claims 1, 14, 17 and 23 have been amended as shown on pp. 2-6 of the Reply.

Applicants' representative thanks the Examiner for the courtesies extended during the teleconference of January 12, 2009.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

#### **I. Rejection of Claims 1-5, 11-12, and 14 Under 35 U.S.C. §101**

Claims 1-5, 11-12, and 14 stand rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. Independent claim 1 has been amended herein to clearly illustrate that elements within such claims are components associated with a computer readable storage medium. In particular, claim 1 as amended is directed towards an application test management system, comprising: *a computer readable storage medium having stored thereon the following components executable by a processor*, ... (Support for these amendments can be found on pg. 5, lines 3-21 and pg. 13, lines 6-15). Accordingly, this claim includes functional descriptive material within a computer processor and computer readable storage medium, thereby rendering it structurally and functionally interrelated to the computer processor and computer readable storage medium and is therefore directed to statutory subject matter. Claim 14 has been similarly amended. Accordingly, this rejection should be withdrawn with regard to claims 1-5, 11-12 and 14.

#### **II. Rejection of Claims 1-5, 11, 12, 14, 17, 18, 20, 22, 23, and 25-27 Under 35 U.S.C. §103(a)**

Claims 1-5, 11, 12, 14, 17, 18, 20, 22, 23, and 25-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Blackwell *et al.* (US 2005/0166094 A1) in view of Mandava *et al.* (US 7,203,928 B2) (hereinafter 'Mandava-2'). Blackwell *et al.* and Mandava-2, individually or in combination, do not teach each and every element of the subject invention as recited in the subject claims.

The subject claims relate to maintaining fine grained information regarding test versions and their relationship to versions of source code in such a way as to allow for robust management reporting. In particular, independent claim 1 recites an application test management system comprising: *...a version component that monitors source under test components and test components for changes; a test case file component that includes metadata associated with test components and source under test components received from the version component that indicates relationships between versions of source under test components and versions of test cases, the test case file component is continuously modified such that new features are added and/or removed to test changes in the source under test components; a build drop component that comprises an executable version of the software under test and includes changed data from the version component; and a test catalog that provides a repository for a collection of test case files, test cases, test variations, and namespace metadata and is constructed from aggregation of individual test case files which relate to each other in a hierarchical fashion; wherein the test case file component generates test results that are tagged with the versions of the source under test components and saved to a data store for historical analysis; wherein the test case file component receives version data from the version component and stores the version data to is an XML document, the XML document is transformed utilizing XSLT to enable a user to view at least one of exception patterns, trends, productivity, and success rates.*

Blackwell *et al.* discloses an automated tool used in conjunction with test cases designed to test the operation of components of a software system. The testing of the software system is done by running predetermined test cases with known expected outcomes that can only be compared with the actual output of the software system. The test cases are typically defined and created during the development phase of the project and would only be removed when the functionality has been eliminated. (See pg. 9, paragraph [0125] and pg. 12, paragraph [0159]).

In contrast, applicants' claimed subject matter discloses test case components that are continuously modified such that new features are added and/or removed. Test case components need to change to test the changes in the SUT. Test case component generates test results that correspond to the results of the test as executed on the current version of SUT. Accordingly, the test results and the version component changes are all version tagged data, meaning that they are all dependent on the version of the software under test.

Further, the test case file component receives or retrieves version data from the version component regarding particular source code and tests, and stores them to a file such as an XML (eXtensible Markup Language) file. In essence, the XML file can store metadata associated with tests and source code. Additionally, the file can contain all the attributes necessary for query and management including but not limited to pointers to the source under test, requirements under test, configuration under test, and other aspects necessary for filtering. Persistence to the test XML file enables fine-grained versioning consistent with source as well as version-aware references to the source under test. Furthermore, the XML file data can be loaded into memory or treated like a database utilizing XSLT transformation, in order to provide management operations including but not limited to selection, query, reporting, suite composition and scheduling. (See pg. 6, line 11-22).

The test cases of Blackwell *et al.* are predefined and do not change, whereas applicants' test case components are dependent on the version of the software under test and change continuously as new features are added and/or removed from the software. Blackwell *et al.* merely discloses that test results are generated and compared against known-good values or against expected test results. The results are automatically compared and verified. (See pg. 20, paragraph [0024]). Applicants' claimed subject matter discloses generating test results that are tagged with the versions of the source under test components, the test results and version component are all version tagged data and dependent on the versions of the software under test. The test results of Blackwell *et al.* are not version tagged data.

Mandava-2 does not cure the deficiencies of Blackwell *et al.* Mandava-2 discloses generating uniform results which are temporarily stored to a dynamic XML file defined in the memory. (See col. 8, lines 17-25). In contrast, applicants' claimed subject matter discloses a test case file component that receives or retrieves version data from the version component regarding particular source code and tests, and stores them to an XML file. The XML file also stores metadata associated with tests and source code. Additionally, the file can contain all the attributes necessary for query and management including but not limited to pointers to the source under test, requirements under test, configuration under test, and other aspects necessary for filtering. Further, the XML document is queried or filtered utilizing XSLT transformations. Such transformations provide a developer a mechanism for viewing exception patterns, trends, productivity, success rates, and the like over the course of a software lifecycle. However,

Mandava-2 is silent regarding an XML file that stores metadata associated with tests and source code, and that contains all the attributes necessary for query and management. The uniform results of Mandava-2 are temporarily stored to a dynamic XML file. Therefore, Mandava-2 fails to teach or suggest receiving version data and storing the version data to an XML document which stores metadata associated with the test cases and source code and contains at least one of pointers to the source under test, requirements under test and configuration under test.

Further, independent claim 14 recites a test management system, comprising: ...; *a means for continuously modifying test data such that new features are added and/or removed to test version changes to the software under test; and a means for generating test results that are tagged with test version data in relation to the version of software under test, the test results and test version data are all version tagged data and dependent on the versions of the software under test; wherein the means for maintaining fine-grained track of a test's relation to a version of software under test includes persisting software version information and related test information to an XML file, and wherein the XML file is transformed utilizing XSLT to enable a user to view at least one of exception patterns, trends, productivity, and success rates.*

As stated *supra*, Blackwell *et al.* discloses that test results are generated and compared against known-good values or against expected test results. The results are automatically compared and verified. Applicants' claimed subject matter discloses generating test results that are tagged with the versions of the source under test components, the test results and version component are all version tagged data and dependent on the versions of the software under test. And, Mandava-2 discloses generating uniform results which are temporarily stored to a dynamic XML file defined in the memory. In contrast, applicants' claimed subject matter discloses a test case file component that receives or retrieves version data from the version component regarding particular source code and tests, and stores them to an XML file. The XML file also stores metadata associated with tests and source code. Additionally, the file can contain all the attributes necessary for query and management including but not limited to pointers to the source under test, requirements under test, configuration under test, and other aspects necessary for filtering.

Further, independent claim 17 recites a test management methodology, comprising: ... ; *generating test results that are tagged with test version information in relation to software code version under test, the test results and test version information are all version tagged data*

*and dependent on the versions of the software code under test; and transforming the XML file utilizing XSLT to enable a user to view at least one of exception patterns, trends, productivity, and success rates and management operations including at least one of selection, query, reporting, suit composition, and scheduling.*

Blackwell *et al.* discloses that test results are generated and compared against known-good values or against expected test results. Applicants' claimed subject matter discloses generating test results that are tagged with the versions of the source under test components, the test results and version component are all version tagged data and dependent on the versions of the software under test. And, Mandava-2 discloses generating uniform results which are temporarily stored to a dynamic XML file defined in the memory. In contrast, applicants' claimed subject matter discloses a test case file component that receives or retrieves version data from the version component regarding particular source code and tests, and stores them to an XML file. The XML file also stores metadata associated with tests and source code.

Further, independent claim 23 recites a testing methodology, comprising: ... ***generating test results, wherein the test results are version tagged to indicate the relationships between test results, version of the test case, and version of the source code under test; continuously modifying test information such that new features are added and/or removed to test version changes to the source code under test; saving test results to an XML file, the XML file stores metadata associated with the test cases and source code and contains at least one of pointers to the source under test, requirements under test and configuration under test; providing a repository for a collection of test case files, test cases, test variations, and namespace metadata, wherein the repository is constructed from aggregation of individual test case files which relate to each other in a hierarchical fashion; and employing XSLT to facilitate management operations including at least one of query, reporting, suite composition and scheduling.***

As stated *supra*, Blackwell *et al.* discloses that test results are generated and compared against known-good values or against expected test results. Applicants' claimed subject matter discloses generating test results that are tagged with the versions of the source under test components, the test results and version component are all version tagged data and dependent on the versions of the software under test. And, Mandava-2 discloses generating uniform results which are temporarily stored to a dynamic XML file defined in the memory. In contrast, applicants' claimed subject matter discloses a test case file component that receives or retrieves

version data from the version component regarding particular source code and tests, and stores them to an XML file. The XML file also stores metadata associated with tests and source code. Additionally, the file can contain all the attributes necessary for query and management including but not limited to pointers to the source under test, requirements under test, configuration under test, and other aspects necessary for filtering.

In view of the foregoing, applicants' representative respectfully submits that the cited references fail to teach or suggest all limitations of claims 1-5, 11, 12, 14, 17, 18, 20, 22, 23, and 25-27. Accordingly, withdrawal of this rejection is respectfully requested.

**CONCLUSION**

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [MSFTP641US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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